

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/S78,992  
Source: IFWP  
Date Processed by STIC: 5-31-06

# ***ENTERED***

CRF Errors Edited by the STIC Systems Branch

Serial Number: 10/578,992

CRF Edit Date: 5-31-06  
Edited by: ZCL

\_\_\_ Realigned nucleic acid/amino acid numbers/text in cases where the sequence text "wrapped" to the next line

\_\_\_ Corrected the SEQ ID NO. Sequence numbers edited were:

\_\_\_\_\_

\_\_\_ Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited:

\_\_\_\_\_

☒ Deleted: \_\_\_ invalid beginning/end-of-file text ; \_\_\_ page numbers

\_\_\_ Inserted mandatory headings/numeric identifiers, specifically:

\_\_\_\_\_

\_\_\_ Moved responses to same line as heading/numeric identifier, specifically:

\_\_\_\_\_

\_\_\_ Other:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



IFWP

## RAW SEQUENCE LISTING

DATE: 05/31/2006

PATENT APPLICATION: US/10/578,992

TIME: 15:18:42

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\05312006\J578992.raw

```

3 <110> APPLICANT: Nielsen, Anders Vikso
4     Norman, Barrie Edmund
5     Landvik, Sara
7 <120> TITLE OF INVENTION: Method for producing glucoamylases and their uses
9 <130> FILE REFERENCE: 10362.204-US
C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/578,992
C--> 11 <141> CURRENT FILING DATE: 2006-05-11
11 <160> NUMBER OF SEQ ID NOS: 13
13 <170> SOFTWARE: PatentIn version 3.3
15 <210> SEQ ID NO: 1
16 <211> LENGTH: 2427
17 <212> TYPE: DNA
18 <213> ORGANISM: Athelia rolfsii
21 <220> FEATURE:
22 <221> NAME/KEY: CDS
23 <222> LOCATION: (1)..(208)
25 <220> FEATURE:
26 <221> NAME/KEY: Intron
27 <222> LOCATION: (209)..(283)
29 <220> FEATURE:
30 <221> NAME/KEY: CDS
31 <222> LOCATION: (284)..(354)
33 <220> FEATURE:
34 <221> NAME/KEY: Intron
35 <222> LOCATION: (355)..(410)
37 <220> FEATURE:
38 <221> NAME/KEY: misc_feature
39 <222> LOCATION: (367)..(367)
40 <223> OTHER INFORMATION: Nucleotide within intron - any nucleotide.
42 <220> FEATURE:
43 <221> NAME/KEY: misc_feature
44 <222> LOCATION: (392)..(392)
45 <223> OTHER INFORMATION: Nucleotide within intron - any nucleotide.
47 <220> FEATURE:
48 <221> NAME/KEY: CDS
49 <222> LOCATION: (411)..(557)
51 <220> FEATURE:
52 <221> NAME/KEY: Intron
53 <222> LOCATION: (558)..(616)
55 <220> FEATURE:
56 <221> NAME/KEY: CDS
57 <222> LOCATION: (617)..(770)
59 <220> FEATURE:

```

## RAW SEQUENCE LISTING

DATE: 05/31/2006

PATENT APPLICATION: US/10/578,992

TIME: 15:18:42

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\05312006\J578992.raw

```

60 <221> NAME/KEY: Intron
61 <222> LOCATION: (771)..(825)
63 <220> FEATURE:
64 <221> NAME/KEY: CDS
65 <222> LOCATION: (826)..(986)
67 <220> FEATURE:
68 <221> NAME/KEY: Intron
69 <222> LOCATION: (987)..(1058)
71 <220> FEATURE:
72 <221> NAME/KEY: CDS
73 <222> LOCATION: (1059)..(1331)
75 <220> FEATURE:
76 <221> NAME/KEY: Intron
77 <222> LOCATION: (1332)..(1409)
79 <220> FEATURE:
80 <221> NAME/KEY: CDS
81 <222> LOCATION: (1410)..(1713)
83 <220> FEATURE:
84 <221> NAME/KEY: Intron
85 <222> LOCATION: (1714)..(1787)
87 <220> FEATURE:
88 <221> NAME/KEY: CDS
89 <222> LOCATION: (1788)..(1958)
91 <220> FEATURE:
92 <221> NAME/KEY: Intron
93 <222> LOCATION: (1959)..(2020)
95 <220> FEATURE:
96 <221> NAME/KEY: CDS
97 <222> LOCATION: (2021)..(2116)
99 <220> FEATURE:
100 <221> NAME/KEY: Intron
101 <222> LOCATION: (2117)..(2173)
103 <220> FEATURE:
104 <221> NAME/KEY: CDS
105 <222> LOCATION: (2174)..(2325)
107 <400> SEQUENCE: 1
108 atg ttt cgt tca ctc ctg gcc ttg gct gcg tgt gca gtc gcc tct gta      48
109 Met Phe Arg Ser Leu Leu Ala Leu Ala Ala Cys Ala Val Ala Ser Val
110 1          5          10          15
112 tct gca cag tct gcg tct gcg aca gca tat ctt acc aag gaa tct gca      96
113 Ser Ala Gln Ser Ala Ser Ala Thr Ala Tyr Leu Thr Lys Glu Ser Ala
114          20          25          30
116 gtt gcc aag aat ggc gta ctt tgc aac att ggt agc cag gga tgc atg     144
117 Val Ala Lys Asn Gly Val Leu Cys Asn Ile Gly Ser Gln Gly Cys Met
118          35          40          45
120 tct gag ggt gcc tat agc ggt att gtg atc gca tct ccc tct aaa act     192
121 Ser Glu Gly Ala Tyr Ser Gly Ile Val Ile Ala Ser Pro Ser Lys Thr
122          50          55          60
124 agc cct gac tat ctc t gtgagtatta tttgtaaagt agcctcactg atagtacatt    248

```

## RAW SEQUENCE LISTING

DATE: 05/31/2006

PATENT APPLICATION: US/10/578,992

TIME: 15:18:42

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\05312006\J578992.raw

```

125 Ser Pro Asp Tyr Leu
126 65
128 ttctgagttc tgttacaacc ctggtattat aatag at acc tgg act cgc gac 300
129 Tyr Thr Trp Thr Arg Asp
W--> 130 75
132 tcg tcg ctc gtc ttc aag atg tta att gac caa tac aca aat ggc ctg 348
133 Ser Ser Leu Val Phe Lys Met Leu Ile Asp Gln Tyr Thr Asn Gly Leu
134 80 85 90
W--> 136 gat acg gtatgtggca tcnegcgttcc ggctcgcctc aaagatgnaa aattgatgtt 404
137 Asp Thr
140 tcttag aca ctg cgc act ctc att gac gag ttt gtc tct gcg gaa gcc 452
141 Thr Leu Arg Thr Leu Ile Asp Glu Phe Val Ser Ala Glu Ala
142 95 100 105
144 acc att caa caa acc agt aac cca tct ggt acc gtc tct acc ggt ggt 500
145 Thr Ile Gln Gln Thr Ser Asn Pro Ser Gly Thr Val Ser Thr Gly Gly
146 110 115 120
148 ctc ggc gaa ccc aaa ttc aat atc gac gag acg gca ttt acg ggc gca 548
149 Leu Gly Glu Pro Lys Phe Asn Ile Asp Glu Thr Ala Phe Thr Gly Ala
150 125 130 135
152 tgg ggt cgt gtaagctacc aatacacaat caaaatcgac catctgtatt 597
153 Trp Gly Arg
154 140
156 tactatctat aattttctag ccc caa cgt gat ggt ccc gcc ctc cgt gca acc 649
157 Pro Gln Arg Asp Gly Pro Ala Leu Arg Ala Thr
158 145 150
160 gca atc atg acc tat gcg acg tat ctg tac aac aat ggc aac act tcc 697
161 Ala Ile Met Thr Tyr Ala Thr Tyr Leu Tyr Asn Asn Gly Asn Thr Ser
162 155 160 165
164 tac gtg acc aac acc ctt tgg cct atc atc aag ctc gac ctt gac tat 745
165 Tyr Val Thr Asn Thr Leu Trp Pro Ile Ile Lys Leu Asp Leu Asp Tyr
166 170 175 180 185
168 gtc aac tcg gac tgg aac cag acc a gtaagcgaat ttctaggggg 790
169 Val Asn Ser Asp Trp Asn Gln Thr
170 190
172 acttatctaa aacagcatat tcaaccagta aatag cg ttt gac ctc tgg gaa 842
173 Thr Phe Asp Leu Trp Glu
174 195
176 gaa gtt gac tcg tct tct ttc ttt acg act gcc gtt cag cac cgt gct 890
177 Glu Val Asp Ser Ser Ser Phe Phe Thr Thr Ala Val Gln His Arg Ala
178 200 205 210 215
180 ctt gtt cag ggc gca gcc ttt gct acc ctc atc ggc caa act tcg tct 938
181 Leu Val Gln Gly Ala Ala Phe Ala Thr Leu Ile Gly Gln Thr Ser Ser
182 220 225 230
184 gct tcg act tac tcc gcc acg gcc cct agc att ctc tgc ttc ttg cag 986
185 Ala Ser Thr Tyr Ser Ala Thr Ala Pro Ser Ile Leu Cys Phe Leu Gln
186 235 240 245
188 gtgagataaa aatctttcta tgtaattggg ttttcccctc aaattgaaat tgacatat 1046
190 gcgatccaat ag tct tac tgg aac acc aac gga tac tgg acg gcc aac act 1097
191 Ser Tyr Trp Asn Thr Asn Gly Tyr Trp Thr Ala Asn Thr

```

## RAW SEQUENCE LISTING

DATE: 05/31/2006

PATENT APPLICATION: US/10/578,992

TIME: 15:18:42

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\05312006\J578992.raw

```

192                               250                               255                               260
194 ggt ggc gga cgt tcc ggc aag gac gcc aac acc ata ctc gct tct atc      1145
195 Gly Gly Gly Arg Ser Gly Lys Asp Ala Asn Thr Ile Leu Ala Ser Ile
196                               265                               270                               275
198 cac aca ttt gac gcc agc gcc ggc tgc tct gct gcc acg tct caa cca      1193
199 His Thr Phe Asp Ala Ser Ala Gly Cys Ser Ala Ala Thr Ser Gln Pro
200                               280                               285                               290
202 tgc tct gac gta gca ttg gcc aac ctg aag gta tac gtt gac tct ttc      1241
203 Cys Ser Asp Val Ala Leu Ala Asn Leu Lys Val Tyr Val Asp Ser Phe
204                               295                               300                               305
206 cgt agt att tat acg atc aac agc ggt att tcc tct acc tcg ggt gtt      1289
207 Arg Ser Ile Tyr Thr Ile Asn Ser Gly Ile Ser Ser Thr Ser Gly Val
208                               310                               315                               320
210 gct act ggt cgc tac ccc gaa gat tcg tat tac aat ggc aac      1331
211 Ala Thr Gly Arg Tyr Pro Glu Asp Ser Tyr Tyr Asn Gly Asn
212 325                               330                               335
214 gtacgtatatt atctaatttt tccaagacag tcaaagttaa tggtcatctg ccccttttta 1391
216 cctgtacatt caaaatag ccc tgg tac ctc tgc aca ctc gcc gtc gcc gag      1442
217                               Pro Trp Tyr Leu Cys Thr Leu Ala Val Ala Glu
218                               340                               345
220 cag ctc tat gat gct ctc atc gta tgg aag gct gcc ggg gag ctc aac      1490
221 Gln Leu Tyr Asp Ala Leu Ile Val Trp Lys Ala Ala Gly Glu Leu Asn
222 350                               355                               360                               365
224 gtc acc tcc gtc tcg ctc gcg ttc ttc cag caa ttc gac tcg agc atc      1538
225 Val Thr Ser Val Ser Leu Ala Phe Phe Gln Gln Phe Asp Ser Ser Ile
226                               370                               375                               380
228 acc gcc ggc act tac gcc tcc tcg tcg agc gta tac act tcg ctc atc      1586
229 Thr Ala Gly Thr Tyr Ala Ser Ser Ser Ser Val Tyr Thr Ser Leu Ile
230                               385                               390                               395
232 tct gac atc cag gcg ttc gca gac gag ttt gtt gac att gtt gcc aag      1634
233 Ser Asp Ile Gln Ala Phe Ala Asp Glu Phe Val Asp Ile Val Ala Lys
234                               400                               405                               410
236 tac acg cct tcg tct ggc ttc ttg tct gag cag tat gat aag tcc acg      1682
237 Tyr Thr Pro Ser Ser Gly Phe Leu Ser Glu Gln Tyr Asp Lys Ser Thr
238                               415                               420                               425
240 ggt gct cag gat tcg gct gct aac ttg act t gtaagtcac tatttggtca      1733
241 Gly Ala Gln Asp Ser Ala Ala Asn Leu Thr
242 430                               435
244 ttctattcct tttcaaaaaa aaaagtgatg ctaatgattt ttggcggaaa ccag gg      1789
245                               Trp
W--> 248 tcc tat gct gct gct atc acc gct tac caa gcc cgc aat ggc ttc aca      1837
249 Ser Tyr Ala Ala Ala Ile Thr Ala Tyr Gln Ala Arg Asn Gly Phe Thr
W--> 250                               445                               450                               455
252 ggt gct tcg tgg ggt gct aag gga gtt tct acc tcc tgc tcg act ggt      1885
253 Gly Ala Ser Trp Gly Ala Lys Gly Val Ser Thr Ser Cys Ser Thr Gly
254                               460                               465                               470
256 gct aca agc ccg ggt ggc tcc tcg ggt agt gtc gag gtc act ttc gac      1933
257 Ala Thr Ser Pro Gly Gly Ser Ser Gly Ser Val Glu Val Thr Phe Asp
258                               475                               480                               485

```

## RAW SEQUENCE LISTING

DATE: 05/31/2006

PATENT APPLICATION: US/10/578,992

TIME: 15:18:42

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\05312006\J578992.raw

```

260 gtt tac gct acc aca gta tat ggc c gtaagcactt gactagcttc      1978
261 Val Tyr Ala Thr Thr Val Tyr Gly
262      490                      495
264 aaaccatact tcatcatgct gataaacaaa aaaatgaaac ag ag aac atc tat      2031
W--> 265                      Gln Asn Ile Tyr
266                      500
268 atc acc ggt gat gtg agt gag ctc ggc aac tgg aca ccc gcc aat ggt      2079
269 Ile Thr Gly Asp Val Ser Glu Leu Gly Asn Trp Thr Pro Ala Asn Gly
270      505                      510                      515
272 gtt gca ctc tct tct gct aac tac ccc acc tgg agt g gtaagttgac      2126
273 Val Ala Leu Ser Ser Ala Asn Tyr Pro Thr Trp Ser
274      520                      525
276 ccttaccagt atcttgacag acattgatat tgacttccgc aatacag cc acg atc      2181
277                      Ala Thr Ile
278                      530
280 gct ctc ccc gct gac acg aca atc cag tac aag tat gtc aac att gac      2229
281 Ala Leu Pro Ala Asp Thr Thr Ile Gln Tyr Lys Tyr Val Asn Ile Asp
282      535                      540                      545
284 ggc agc acc gtc atc tgg gag gat gct atc agc aat cgc gag atc acg      2277
285 Gly Ser Thr Val Ile Trp Glu Asp Ala Ile Ser Asn Arg Glu Ile Thr
286      550                      555                      560
288 acg ccc gcc agc ggc aca tac acc gaa aaa gac act tgg gat gaa tct      2325
289 Thr Pro Ala Ser Gly Thr Tyr Thr Glu Lys Asp Thr Trp Asp Glu Ser
290      565                      570                      575
292 taaactgctg aacttgaacg gcttgcaaaa gcgaatggtg tagaaaataa acgaagattt      2385
294 tgattgcttt gttttgtttc tcttctctatc ttgtttctct ag      2427
297 <210> SEQ ID NO: 2
298 <211> LENGTH: 579
299 <212> TYPE: PRT
300 <213> ORGANISM: Athelia rolfsii
302 <400> SEQUENCE: 2
304 Met Phe Arg Ser Leu Leu Ala Leu Ala Ala Cys Ala Val Ala Ser Val
305 1      5      10      15
308 Ser Ala Gln Ser Ala Ser Ala Thr Ala Tyr Leu Thr Lys Glu Ser Ala
309      20      25      30
312 Val Ala Lys Asn Gly Val Leu Cys Asn Ile Gly Ser Gln Gly Cys Met
313      35      40      45
316 Ser Glu Gly Ala Tyr Ser Gly Ile Val Ile Ala Ser Pro Ser Lys Thr
317      50      55      60
320 Ser Pro Asp Tyr Leu Tyr Thr Trp Thr Arg Asp Ser Ser Leu Val Phe
321 65      70      75      80
324 Lys Met Leu Ile Asp Gln Tyr Thr Asn Gly Leu Asp Thr Thr Leu Arg
325      85      90      95
328 Thr Leu Ile Asp Glu Phe Val Ser Ala Glu Ala Thr Ile Gln Gln Thr
329      100      105      110
332 Ser Asn Pro Ser Gly Thr Val Ser Thr Gly Gly Leu Gly Glu Pro Lys
333      115      120      125
336 Phe Asn Ile Asp Glu Thr Ala Phe Thr Gly Ala Trp Gly Arg Pro Gln
337      130      135      140

```

RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/10/578,992

DATE: 05/31/2006  
TIME: 15:18:43

Input Set : A:\PTO.KD.txt  
Output Set: N:\CRF4\05312006\J578992.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; N Pos. 367,392



## VERIFICATION SUMMARY

DATE: 05/31/2006

PATENT APPLICATION: US/10/578,992

TIME: 15:18:43

Input Set : A:\PTO.KD.txt

Output Set: N:\CRF4\05312006\J578992.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:130 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1  
L:136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:348  
L:248 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1  
L:250 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1  
L:265 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 1

## **Raw Sequence Listing before editing (for reference only)**

---



IFWP

## RAW SEQUENCE LISTING

DATE: 05/22/2006

PATENT APPLICATION: US/10/578,992

TIME: 14:13:06

Input Set : A:\01-SQ Listing-10 May 2006.txt

Output Set: N:\CRF4\05222006\J578992.raw

3 <110> APPLICANT: Nielsen, Anders Vikso  
 4       Norman, Barrie Edmund  
 5       Landvik, Sara  
 7 <120> TITLE OF INVENTION: Method for producing glucoamylases and their uses  
 9 <130> FILE REFERENCE: 10362.204-US  
 C--> 11 <140> CURRENT APPLICATION NUMBER: US/10/578,992  
 C--> 11 <141> CURRENT FILING DATE: 2006-05-11  
 11 <160> NUMBER OF SEQ ID NOS: 13  
 13 <170> SOFTWARE: PatentIn version 3.3

Does Not Comply  
Corrected Diskette Needed

(pg. 1)

## ERRORED SEQUENCES

572 <210> SEQ ID NO: 13  
 573 <211> LENGTH: 37  
 574 <212> TYPE: DNA  
 575 <213> ORGANISM: Artificial sequence  
 577 <220> FEATURE:  
 578 <223> OTHER INFORMATION: Primer 240303P1  
 580 <400> SEQUENCE: 13  
 581 gggccccgc ggctagggga gagcgatcgt ggcactc  
 E--> 587 11

37

deleted

**VERIFICATION SUMMARY**

DATE: 05/22/2006

PATENT APPLICATION: US/10/578,992

TIME: 14:13:08

Input Set : A:\01-SQ Listing-10 May 2006.txt

Output Set: N:\CRF4\05222006\J578992.raw

L:11 M:270 C: Current Application Number differs, Replaced Current Application No  
L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:130 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1  
L:136 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:348  
L:248 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1  
L:250 M:336 W: Invalid Amino Acid Number in Coding Region, SEQ ID:1  
L:265 M:361 W: Invalid Split Codon, Sequence data for SEQ ID#: 1  
L:587 M:254 E: No. of Bases conflict, this line has no nucleotides.